

Deposit Insurance: Problems and Solutions

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TITLE III of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) requires the Federal Deposit Insurance Corporation (FDIC) to design a new system of insurance

assessments involving insurance premiums that are positively related to risk. In this essay I briefly describe the current plan for a risk-based premium structure and consider some

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potential operational problems with it. I also reflect on the role of risk-based premiums in the context of the broader themes of the current debate over bank regulatory policy.

The new premium structure, in which a bank's premium is based on various capital ratios and its supervisory rating (the operational definition of risk), has at least two potentially significant operational problems. First, analysts may be able to infer a bank's confidential CAMEL rating from information about the premiums; disclosure of bad CAMEL ratings could provoke depositor runs.² Second, the new system may provide incentives for weak banks to improve their official status by engaging in accounting gimmickry, rather than by improving soundness in reality.

A more fundamental issue concerns the cause of bank failures. Risk-based premiums are a response to the so-called moral-hazard problem of flat-rate deposit insurance. Though risk-based insurance premiums address the moral-hazard problem, they will solve the underlying problem, which is bank failures, only if moral hazard has been the principal cause of failures. I suggest that a different problem—inferior management—may have been responsible for many bank failures and that current evidence may not be sufficient to determine which of these two problems was primarily responsible for the high rate of bank failures during the 1980s.

The Problem: Moral Hazard

In its simplest guise, the moral-hazard argument states that if no one charges a bank a higher price for accepting more risk, optimizing bankers will exploit the risk-return trade-off by assuming as much risk as possible. Under flat-rate deposit insurance, no one charges a risk premium. Depositors do not require a risk premium on deposit interest rates because their funds are not at risk and the insurer by definition does not assess one. Therefore bankers should maximize the risk of their institutions to achieve the highest possible risk-adjusted expected return.

To be precise about moral hazard, we must define *risk*. A standard definition is the variance of the expected future returns on the bank's as-

set portfolio. Using this definition, it can be shown rigorously that bankers have an incentive to maximize bank risk. There are, however, widely recognized mitigating factors that serve as a counterweight to this incentive. First, there is value attached to property rights in the bank's charter (chartering restrictions and other barriers to entry can reduce competition, giving valuable market power to holders of the charter). This charter value is lost to shareholders in the event of bank failure. Thus shareholders may act to protect the charter, even if it means lower expected profits in the short run. Second, bank managers have professional reputations, which are damaged by bank failure. Bankers may act to protect their reputations, even if it means lower expected profits for shareholders. Third, banks are supervised and regulated. Regulators can legally force bank owners and managers to act more prudently.

The moral-hazard argument is a potential explanation for the high rates of bank failure in the 1980s. If bankers exploit moral-hazard incentives by maximizing the risk of their asset portfolios, they will produce relatively high average rates of bank failure.³ An auxiliary argument is needed to explain why, despite the fixed-rate premium structure, the failure rate for insured banks was low before 1980. It is often suggested that deregulation early in the decade removed a significant portion of the prudential government supervision and regulation that had artificially contained bankers' risk taking. Another explanation is that constraints on competition kept bank charter values high.

The Solution: Risk-Based Premiums

The role of the moral-hazard argument in the formulation of risk-based premiums is evident both in the FDIC's early recommendations and in the Treasury's recommendations, which laid the groundwork for FDICIA.⁴ A system of risk-based deposit insurance premiums confronts the moral-hazard problem directly by ensuring that someone charges a risk premium. Because the insurer now assesses a risk premium, we can no longer conclude that bankers, acting on their private incentives, will maximize the riskiness of

²CAMEL is an acronym for capital, asset quality, management, earnings and liquidity. Banks are rated by supervisors on a scale from one (best) to five (worst) for each of these five categories. A single aggregate CAMEL rating (also scaled from one to five) is calculated from the five category ratings.

³See, for example, FDIC (1983), pp. II-2 and II-3, and Flannery (1982).

⁴See FDIC (1983), section II, and U.S. Treasury (1991), section VIII, especially pp. VIII-2 and VIII-3.

their assets. Instead, bankers considering a riskier asset portfolio must balance the increased costs of insuring deposits against the increased benefits of risk to their limited-liability stockholders.

Under FDICIA, a system of risk-based premiums must be proposed by December 31, 1992, promulgated by July 1, 1993, and instituted by January 1, 1994. The FDIC has proposed a two-phase plan for risk-based premiums. There is a transitional plan, which began January 1, 1993, and a permanent plan, to begin January 1, 1994. The transitional plan is based on a set of nine risk categories—the product of three capital classes, labelled 1, 2 and 3, and three supervisory classes, labelled A, B and C. The capital classes are based on data from the Reports of Condition and Income (Call Report) and are the same as those established for prompt corrective action (required under Section 131 of FDICIA). The supervisory classes are based on the supervisory reports of each institution's primary federal regulator but may be augmented by other sources, including debt ratings, off-site monitoring and state supervisory reports. The salient factor for determining an institution's supervisory class is its CAMEL rating. Premiums under the transitional plan are set as follows:⁵

Premiums under the Transitional Plan (cents per \$100 of deposits)

	A Healthy	B Supervisory Concern	C Substantial Supervisory Concern
1 Well Capitalized	23	26	29
2 Adequately Capitalized	26	29	30
3 Less than Adequately Capitalized	29	30	31

Ultimately, premiums must be set at levels that will achieve an adequate insurance fund—defined under FDICIA as 1.25 percent of insured deposits—within 15 years. The permanent plan, which has not yet been finalized, will most likely mimic the transitional plan outlined here. Some potential differences from the transitional plan

are larger differences in premiums between safe and risky institutions, a progressive upward ratcheting of premiums for institutions that remain in a high-risk category for extended periods, and a larger premium matrix, incorporating finer gradations of capitalization and supervisory concern. Whether the plan will be effective in altering risk-taking behavior of banks and thrifts remains to be seen. The FDIC (1992b, p. 45282; 1992c, p. 21619), for example, acknowledges that the magnitude of the risk differential in the premiums under these proposals is probably too small to be actuarially fair (that is, too small to ensure that the aggregate assessments collected from each risk class match the prospective losses for that class). Actuarial fairness should be of secondary importance at this point, however, because premiums can be adjusted quite simply within the proposed structure in light of actuarial experience.

Problems with the Solution

Experience may also require more substantial modifications to the structure of the plan, however. For example, given risk-adjusted premiums, it may be possible to use public information on capital ratios and insurance expenses to infer an institution's confidential CAMEL rating, if only approximately. This information might conceivably provoke runs on weak but solvent institutions, forcing their closure. The costs of closure, which are often substantial, are borne mostly by the FDIC.

As a quick check on the relevance of this problem, I attempted to infer CAMEL ratings solely from public information. At the moment, public information on risk-based assessments is quite limited because the temporary plan has just gone into effect. Nevertheless, using the definitions of the three capital categories given above, accounting information in the quarterly bank Call Reports of June 30, 1992, and table 3 of the FDIC's (1992a) announcement in the Federal Register, I constructed a list of 15 large banks predicted to have CAMEL ratings of either 4 or 5. More specifically, the FDIC (1992a, table 3, p. 62507) reported that there were 15 banks in the Bank Insurance Fund, each with \$1 billion or more in assets and with aggregate assets

⁵See FDIC (1992a), table 1, p. 62506. There is a separate, 10th category for bridge banks under the transitional plan (the premium is 26 basis points per dollar of deposits). Under the transitional scheme, supervisory class C essentially

means a CAMEL rating of either 4 or 5, although the FDIC may, at its discretion, use additional information to define the supervisory class of a given bank.

totalling \$51.5 billion as of June 30, 1992, that would have been in premium class 3-C under the transitional scheme. After making a handful of educated guesses about how this sample was constructed, I attempted to identify the 15 banks using Call Report data to calculate asset sizes and capital ratios.

The results of this casual experiment are suggestive. Twelve of the 15 banks I identified did indeed have CAMEL ratings of 4 or 5 (there were six of each). One bank was rated CAMEL 3, and the other two were rated CAMEL 2; none of the fifteen banks was rated CAMEL 1. It appears that the premium structure might convey some information about confidential CAMEL ratings. Although the FDIC (1992b, p. 45283) has voiced concern about revealing supervisory classifications directly, it will be difficult to control fully information about assessments paid. For example, the ability to identify CAMEL ratings should improve markedly if and when the risk-based assessments appear as expenses on Call Reports and SEC 10-K filings. Some have argued that at least for a large bank, whose failure poses the most significant systemic threat, an efficient market has already discounted this information, so a disclosure of CAMEL ratings would not present a problem. Conclusive evidence does not yet exist to support this argument. In any case, it probably does not extend to small, closely held institutions.

A potentially more serious problem is that a risky institution (as defined by its premium category under the plan) might find it more cost effective to improve its official status by engaging in Call Report window dressing or other cosmetic gimmicks, rather than by making real improvements in safety and soundness. This misinformation option would raise the institution's costs and erode the reliability of supervision without affecting the FDIC's exposure to loss. Although there is evidence that some banks already indulge in window dressing to prevent supervisory attention, the question of the marginal impact of risk-based premiums in this area remains open.

Problems with the Problem

A question with much broader implications is whether we have correctly defined the problem

that caused the high rates of bank failures in the 1980s. The moral-hazard hypothesis offered previously states that bankers maximize the riskiness of their bank's assets because flat-rate deposit insurance and limited-liability equity combine to distribute big profits to bank stockholders and big losses to the FDIC and because riskier assets acquired at appropriately risk-adjusted prices have higher expected returns than less risky assets. Calculating bankers therefore select those assets whose expected returns are highest, benefitting from both the higher risk and the larger average return.

An important presumption of this particular diagnosis of the problem is that bankers can accurately calculate the expected risks and returns for available assets, allowing them to reckon appropriate risk-adjusted prices for their assets and to select the optimal (that is, the riskiest) portfolio. A related assumption is that all bank managers behave identically. That is, by positing only one theory of bankers' behavior, the moral-hazard hypothesis, we implicitly presume that all bank managers behave according to this hypothesis, responding to the incentives of flat-rate deposit insurance. No allowance is made for the possibility that individual bank managers may face significant, idiosyncratic, private incentives or that managers may differ in their job aptitudes.

To illustrate the significance of this issue, let me focus on a specific alternative hypothesis about the cause of bank failures: inferior management. Suppose that the talent pool of potential bankers is diverse. Rather than being equally skilled in the profession, bankers cover a range from strategic and financial geniuses to those who are plainly incompetent. For simplicity, imagine that there are only two types of bankers, competent and incompetent. Incompetents are defined as those who cannot accurately assess the expected return or risk of bank assets. In general, we should expect them to select an inefficient portfolio for the bank. By inefficient, I mean that the bank is not appropriately compensated for the portfolio risk it bears.⁶ Such managers may plausibly also be worse at such things as asset-liability management, controlling operating expenses, and preventing fraud and self-dealing.

⁶In theoretical terms, *inefficient* means that the portfolio does not lie on the mean-variance efficient frontier. Fraudulent management, which can produce spectacular

losses for the FDIC, also represents an instance where bankers fail to maximize the value of the firm to shareholders.

With deposit insurance artificially reducing the bank's cost of funds and with barriers to market entry (for example, restrictive chartering and branching policies) protecting banks from competition, a poorly managed bank may be able to survive indefinitely. This alternative explanation is broadly consistent with the recent U. S. experience with bank failures. Under this scenario, the banking deregulation of the early 1980s provoked more failures less by freeing bankers to act on the incentive to maximize asset risk (moral hazard) than by subjecting previously insulated and relatively poorly managed banks to harsher competitive forces. There is some evidence to support this alternative explanation. The Office of the Comptroller of the Currency (OCC, 1988), for example, states that "poor management and other internal problems are the common denominator of failed and problem banks." It also cites "policies, planning and management" as a significant factor in 90 percent of bank failures.⁷ An earlier study [FDIC (1976), p. 3] cited some factors common to all closed banks: "weak, disinterested, uninformed or fraudulent management; a lack of or insufficient internal routines, controls and operating systems; and in many cases 'poor house-keeping.'"

It is worth noting that bad management is a common concern in other areas of corporate finance. For example, there is an extensive academic literature on corporate mergers that deals explicitly with the possibility of poor management, and replacing bad managers is commonly offered as a justification for hostile takeovers. Moreover, the distinction between good and bad bank managers played a central role in an earlier debate over federal deposit insurance. For example, American Bankers Association President Rome Stephenson (1931, p. 592) offered the following explanation for the high rates of bank failure in the 1920s:

a large element in the internal conditions of the banks that failed was bad management and ... a predominant element in the internal conditions of the bank that remained sound in the face of the same external conditions was good management.

⁷See OCC (1988), pp. 1 and 21. This was the second most commonly cited factor affecting failure, after asset quality, which was a significant problem in 98 percent of failed banks. The next most commonly cited factors are "insider abuse" and "economic environment", each cited in 35 percent of cases.

There is also some evidence of an easing of the conditions for getting a bank charter in the 1980s. New charters

rose sharply early in the 1980s, peaking at 489 in 1984. Overall, there were 25 percent more charters issued in the 1980s than there had been in the previous decade. In addition to increasing competition, laxer chartering standards may have made it easier for inferior managers to enter the industry.

Deposit insurance was frequently opposed at the time on the grounds that it took from well-managed banks to subsidize the poorly managed ones.⁸

One reason the inferior-management story has not received much emphasis may be that, unlike moral hazard, it implies a market failure. If inferior management is a problem, shareholders have an incentive to replace the bank's management. Under the moral-hazard hypothesis, bankers are acting in shareholders' interest by maximizing the portfolio risk of the institution. Employing inferior managers, by contrast, only benefits the managers. Shareholders may be unable or unwilling to monitor management closely enough, however, to prevent the hiring of inferior managers. First, shareholder monitoring in any industry is always imperfect and costly, and banking is no exception. The quality of lending decisions can be especially difficult for outside monitors to evaluate before it is too late. Second, shareholders may be no more qualified than their managers to make the necessary judgements. Indeed, in some smaller institutions owners may manage the bank themselves.

If inferior management is a serious problem, the question naturally arises whether risk-based premiums can solve the problem of bank failures. The logic behind risk-based premiums is that a bank manager will take into account the incentives inherent in the assessment scheme when he selects the risk (and therefore also the return) of the optimal portfolio. But an incompetent banker is unable to effect such a response; he cannot evaluate asset risks and returns. To the extent that failures are caused by incompetence, prudential supervision and the licensing of managers are likely to be more effective tools in reducing failure rates.

It should be stressed that the moral-hazard hypothesis and the inferior-management hypothesis are not mutually exclusive. There are many banks, and there have been many bank failures. Some of these failures may be best explained by moral hazard, whereas others might be best explained by bad management. Some failed banks

⁸See Flood (1992).

might display elements of both problems, and others might display elements of neither. Ultimately, the relative importance of moral hazard and inferior management as explanations for past bank failures is an empirical question that lies beyond the scope of this note, as is the question

of whether the pressures of more vigorous competition are likely to weed out incompetent managers before their banks fail. The answers to these questions have implications for the efficacy of risk-based premiums, among other things. They deserve additional research.